

Executive Summary

The 1987 protocol to the Great Lakes Water Quality Agreement describes 14 guidelines to identify beneficial use impairments in evaluating the health of the lakes. These 14 guidelines were used to justify 42 geographical Areas of Concern (AOC). Presque Isle Bay was designated as the 43rd Great Lakes AOC in 1991 after concerned citizens from Erie, PA petitioned for its' inclusion. Preliminary studies, followed by a Remedial Action Plan (RAP), in 1993 identified two beneficial use impairments for the Bay: 1) restrictions on dredging activities; and, 2) fish tumors or other deformities. The Bay's sediments are contaminated with low levels of PAHs and heavy metals. After more than 10 years of study, Pennsylvania's Department of Environmental Protection (PADEP) in conjunction with the AOC's Public Advisory Committee (PAC) determined that monitoring rather than active remediation within the AOC was needed to restore the restrictions on dredging activities beneficial use impairment. As a result, Presque Isle Bay was designated an AOC in the Recovery Stage in 2002.

Since the 1980s, PADEP and its partners like Pennsylvania Sea Grant, have collected information on sediment quality conditions within the Bay. More specifically, sediment chemistry data were collected at a number of locations in the Bay during 1990, 1994, 2000, and 2003. In addition, whole sediment toxicity tests were conducted on samples collected within the Presque Isle Bay AOC. Ancillary data (e.g., tissue residue levels in fish, incidence of DELT abnormalities, etc.) have also been collected to provide a better understanding of environmental quality conditions within the Presque Isle Bay AOC. Based on the results of these investigations, it is apparent that sediment quality conditions have improved substantially over the past decade and that conditions may be sufficient to facilitate delisting of one or both of the two existing beneficial use impairments.

This project is intended to provide the information needed to establish that the beneficial use associated with dredging activities has been restored and to support a petition for delisting of the beneficial use impairment in Presque Isle Bay. More specifically, this project will involve: 1) formulation of a Sediment Advisory Group; 2) compilation and evaluation of existing sediment quality data; 3) evaluation of sediment quality conditions in the AOC; 4) establishment of delisting criteria for the Presque Isle Bay AOC; 5) development of a focused sediment quality monitoring program; 6) implementation of a sediment quality survey in 2005; and, 7) evaluation of current sediment quality conditions relative to delisting criteria. Additionally, the approaches and procedures that are developed during this project will serve as a model for developing delisting criteria at other Great Lakes AOCs; particularly those addressing contaminated sediment.